IT Unit 3

Topic 1

# Ch 1 Organisations & Data Management

**Collecting data online, p 3**

1. ***Why do organisations collect data?***Many organisations collect data to shorten the time required to fill out forms. By using a database, they remove the need to fill out paper forms every time.
2. ***Explain the advantages to be gained from collecting data online in terms of both efficiency and effectiveness.***

Efficiency improves when customers enter their data online, because it’s faster and more efficient than using pamphlets and surveys on paper and saves money on extra staff members. Effectiveness also improves as customers input their own data. Online forms offer greater accuracy by overcoming transcription issues associated with messy writing that I difficult to decipher.

1. ***How are required fields generally indicated on an online form and why do organisations do this?***

They are generally marked with an asterisk or highlighted in red.

1. ***What is a potential problem with direct input?***

A potential problem would be that the customers can input incorrect data, like an email address or a nonsensical name, which will not necessarily be picked up on electronic validation.

1. ***What other advantages are there for businesses in a global economy?****Online data can also provide organisations with marketing opportunities with an expanded customer base. Their consumers can be anywhere in the world, rather than a local community.*
2. ***What other services are provided by businesses online?***Other services provided by businesses online are ongoing services. They are provided by organisations after a purchase. A common example would be a postal service providing tracking information on packages, parcels and letters, when they are in processing, shipping, and when they arrive.

**Why users supply data for online transactions,** p 5

1. ***Elaborate under each of the following headings:***
   1. ***Convenience***Users being able to purchase goods and services via websites benefits the elderly and the sick as they don’t have to travel to buy goods, and it speeds up general shopping as time-poor people who can order groceries online. Paying or bills or transactions online is also quicker and easier than paying in person or on the phone.
   2. ***Variety of choice***Users supply online data to greater increase the variety of goods they can purchase, because if a retailer has an online store, they can sell to the world rather than locally or a few countries.
   3. ***Reducing costs***It can be expensive to travel to a specific shop to compare products. Fuel and parking cost dissuade consumers from shopping around. If consumers compare products online, it saves money and time. Most online stores deliver, so customers do not need to collect purchases either. In some instances, free delivery is included.

**Techniques used by organisations to acquire data online, p 9**

1. ***Prior to web based forms, how did organisations collect data?***Prior to the introduction of web-based forms, when organisations collected data they tended to do this b asking customers to fill out paper forms. The data on these forms would then be typed by a data-entry operator who would transfer the data acquired onto a database.
2. ***What is the role of data acquisition software?***The role of data acquisition software is to make online transactions as easy as possible for users, organisations go to great trouble to design appropriate user experiences (UX) that improve the manual methods once used so they use data acquisition software. It’s designed to guide users through the process step-by-step, tells the user how many steps are remaining before the transaction is complete, and a final confirmation or acknowledgement so that users know their data has been sent and their transaction has been processed and is complete.

**User flow diagrams,** p 11

1. ***What is the purpose of a user flow diagram?***A user flow diagram (UFD) is used to document how a user will interact with an online solution.
2. ***In using a UFD what is important?***It is important to show clearly the multiple entry points that could get a user to the beginning of a transaction and the key data flows or interaction they must go through to complete the transaction.

**Techniques for efficient and effective online data collection,** p 13.

1. ***List some techniques for efficient and effective online data collection.***-Keep it short: only include a few questions on each screen and break large sets of questions onto separate screens  
   -Use clear labels that are easy to understand  
   -Validate: Inline existence checks are done by mandatory fields (usually marked with an asterisk), range checking is often done by dropdown lists or radio button groups, data type checks can be done inline on data, such as dates and numbers (accuracy)  
   -Appropriate field types: For example, use a tick box for True/False answers, or a dropdown list where a set of radio buttons would take up too much space or be unwieldy.  
   -Text fields: Ensure that an field that a user types into is large enough for all the text to be seen in, to maximise readability  
   -Allow the computer to format data, such as phone numbers, to increase readability  
   -Ensure error message are informative: Informative error messages help users to understand what they have done incorrectly and how to fix the error  
   -Map clear paths to completion: Set out the form in a logical and linear manner – a single column is preferred  
   -Be mobile-friendly: Provide a form that can be accessed from devices other than desktop computers, such as tablets and smartphones  
   -Ask relevant questions: What are you asking? Why are you asking it?  
   -Prepopulate data: Prepopulated data can take details users have already entered and put them into similar fields to save the time and effort of retyping the same details. If the details need to be changed then the user can do so. Home address and shipping address in an online purchase is a good example of this.
2. ***What tool is used to design a form prior to creating a data collection screen?***A layout diagram; an annotated layout diagram shows how you have included security and incorporated features that add to the efficiency and effectiveness of the data collection process.

**Design Principles,** p 15

1. ***To be efficient and effective a data collection form needs to conform to design principles of appearance and functionality; briefly elaborate under each of the following:***
   1. ***Appearance:***
      1. ***Alignment***The human eye seeks to make connections as it looks at forms. One way to help with creating an invisible ‘line’ to follow is to apply the principle of alignment. This refers to justifying text and placing objects such as input boxes and graphics in a way that guides the eye, making it easier for the user to follow the path of instructions. Alignment avoids an unprofessional, random look to the placement of objects on the screen.
      2. ***Repetition***Repetition is used to unify elements of a layout. This is achieved by repeating patterns, textures and page elements. Eg, a set of bullet points creates a sense of repetition that connects those points. On a data collection form, repetition usually means that each input box looks similar so that it is easier for a user to understand where details need to be entered, and how .
      3. ***Contrast***When we positioning elements that are dissimilar beside each other we achieve contrast. Essentially, the greater the difference between the image or text and their surroundings, the more they stand out.
      4. ***Space***Space is the area that separates onscreen objects. Ideally, we space objects so that they are easy to perceive, rather than overlapping and obscuring them. Space is used in two ways, if minimised, it is implied that objects are grouped together, contrastingly, to reduce the look of overcrowding and to frame sets of common objects so that they *appear* grouped, but separate from other group, we can make use of white spaces.
      5. ***Balance***All elements of a layout have visual weight. If the elements on either side or the top and bottom of the screen are of an equal weight, then visual balance is achieved. There are two types of balance: symmetrical and asymmetrical. Symmetrical balance divides the page to an equal weights while asymmetrical balance occurs where a visually matched weighting occurs through a combination of objects of differing sizes, shapes and colours.
   2. ***Functionality***
      1. ***Useability***
         1. ***Robustness***  
            Robust is the support for recovery. If there is a problem or a user needs to correct data or undo an action, then the system should be able to step back then forwards again without the user having to restart the entire transaction.
         2. ***Flexibility***Having a user pre-emptive solution where the user initiates and controls the actions is considered more flexible than one where the solution does all the prompting and the user merely replies.
         3. ***Ease of use***If a user can control their interaction then the solution must have the ability to adapt the user interface to different requirements and needs.
      2. ***Accessibility***
         1. ***Navigation  
            In terms of navigation, these are some general rules to follow:***-Help users navigate and find content. The navigation system needs to be clear, simple and intuitive.  
            -Ensure that navigation can also be done on keyboard-only systems.  
            -Give users enough time to read and use content. This is especially true of information to users about the consequences of them clicking buttons that will finalise a transaction and/or process payment.  
            -Use text in place of images for users who cannot perceive the images (e.g. they may be blond or do not understand the meaning of images.)   
            -Help users avoid and correct mistakes with clear instructions and the ability to undo errors by going back to a previous screen.
         2. ***Error tolerance***Error tolerance also has a list of simple considerations:  
            -Make it hard for a user to make errors and avoid allowing actions that lead to errors. For example, grey out non-selectable options and ask for confirmation of major actions, such as a purchase, or a deletion of an account.  
            -Helps users avoid and correct mistakes with clear instructions and the ability to undo errors by going back to a previous screen.
         3. ***What is the purpose of following the design principles?***--

**Data Acquisition software,** p 19

1. ***Elaborate on the nature of PHP and ASP server software.***  
   A PHP allows the user to be in control of the information viewed. In essence, dynamic websites allows users to enter data to access text or images. Both PHP (Personal Home Page) and ASP (Active Server Page) are used to make websites dynamic and are used primarily on the server side of things. ASP is software that is based on the server.
2. ***What are back-end tools?***  
   Back-end tools provide statistics on who visits a website. They want to know which browsers were used to visit their site, what information was commonly searched for, the location of the users, the length of their visits and which sites they came from.
3. ***Describe the nature of a cookie.***  
   A cookie is a small file that a web server stores on the users’ computer. Cookies typically contain data about the user, such as their email addresses and browsing preferences.
4. ***What is spyware?***  
   Spyware is software that enables a user to obtain covert information about another’s computer activities by transmitting data covertly from their hard drive.

**Protection of rights,** p 20

1. ***Why is it important that organisations keep data collected secure?***  
   Organisations need to keep their data safe in order to protect their data from being lost. This is because there is the risk of legal issues if the information is lost, and in the worst case possible, the loss of business.
2. ***Elaborate on each of the following:***
   1. ***Security protocols***
      1. ***TLS, SSL & HTTPS***  
         -TLS > Transport Layer Security  
         -SSL > Secure Socket Layer  
         -HTTPS > Hyper-Text Transfer Protocol; Encrypted, requires a username and a password to log in; which are secure (S= Secure/encrypted)
   2. ***Privacy policies***An organisation that collects data on individuals or other organisations usually has a privacy policy about how it uses the data collected and to whom it will disclose.
   3. ***Shipping and returns policies***Many organisations that sell goods and services online have shipping and returns policies to assist customers with how to proceed should the order not meet with their satisfaction.